

REMARKS

Claims 1-21 were pending in this application as of the Examiner's Office Action to which this Amendment is responsive. Claims 1-21 are rejected.

The below remarks are organized according to the section headings of the Examiner's Detailed Action of Apr. 7, 2004.

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1. Specification

Per the Examiner's suggestion, applicants have bodily incorporated Appendix A into the formal specification. The first four lines, of the 10 inserted pages, are from the section "BRIEF DESCRIPTION OF THE APPENDIX." The remainder, of the 10 inserted pages, is a copy of Appendix A. No new matter has been added.

Applicants have corrected the typographical error on page 13, line 27 by providing a replacement paragraph that strikes out the word "a."

2. Drawings

The Examiner has not raised specific objections to the drawings, nor has a PTO-948 (Notice of Draftperson's Patent Drawing Review) been included. It is applicants' opinion that Figure 5 already meets formal drawing requirements. Therefore, new drawing sheets have been submitted only for Figures 1-4 and 6.

With the above amendments of "REPLACEMENT DRAWINGS," applicants believe they have fully responded to the Examiner's objections.

3. Claim Objections

Applicants have amended claim 21 with the sole purpose of correcting an informality by removing the second usage of the word "comprising."

4. Possible Allowable Subject Matter

This section requires no response from the applicants.

5. Claim Rejections – 35 USC § 103(a)

The Examiner rejects claims 1-21 as obvious over the combination of: McNamara, Grinwald and Parson. Applicants will show that claim 1, for at least the reasons stated below, is not obvious over these references. Since claims 20 and 21 are system and program product versions of method claim 1, they too are non-obvious for at least of the below-stated reasons. Claims 2-19 depend on claim 1 and are non-obvious for at least the reasons stated below with respect to claim 1.

Applicants respectfully submit that claim 1, for at least the following reasons, traverses the Examiner's rejections.

Applicants will first consider each of the argued references individually and then address the Examiner's combination of them. In reviewing the following sections, the Examiner may wish to refer to the following sections of the patent application that address the terms controllability-based coverage or observability-based coverage: the last three paragraphs of "BACKGROUND OF THE INVENTION;" and the 2nd to 4th paragraphs of the section "DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS."

5.1 McNamara

The Examiner is factually incorrect when he states that the second element of claim 1, which relates to "identifying a subset of the input signals having an observably controllable effect," is satisfied by McNamara. In relation to this second element, the Examiner states the following about McNamara:

determining (identifying) s equence of a ctions v ariables that
need to be set or what condition needs to occur (input
signals) to activate targeted arcs, blocks or paths from a
given state (interrelation)

McNamara, however, is simply not about the claimed determination of observability. McNamara is about controllability-based state coverage. To use McNamara in the manner suggested by the Examiner "would change the principle of operation" of McNamara, and this is prohibited by MPEP 2143.01 (see "THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE").

5.2 Grinwald

Like McNamara, Grinwald is not about the claimed determination of observability.

Grinwald is about controllability-based functional coverage.

In particular, Grinwald describes achieving controllability-based functional coverage by separating the coverage model from the coverage measurement tool. The coverage measurement tool described (called "Comet") stores traces in a relational database. Grinwald, p159, Section 4. As stated in Grinwald: "Rows in the event trace usually contain the values of the attributes at the time the row was produced." Grinwald, p159, 4th full paragraph.

Functional coverage tests are referred to as "coverage tasks." Grinwald, p159, 2nd full paragraph. Coverage tasks and traces interact as follows:

After the trace data is stored in the database, it can be processed by Comet's Processing Engine. This engine executes the query of the model on the trace to detect the list of [coverage] tasks that occurred in the test.

Grinwald, p162, 2nd full paragraph.

Coverage tasks are therefore entirely different from the claimed "target signal of the assignment statement" and yet the Examiner equates the two by simply including the term "Target signal," in parenthesis, within a statement about coverage tasks. 04/07/04 Office Action, pg 6, 2nd paragraph.

To use Grinwald in the manner suggested by the Examiner "would change the principle of operation" of Grinwald, and this is prohibited by MPEP 2143.01 (see "THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE").

5.3 Parson

Parson is about the use of object-oriented techniques is to achieve greater efficiency in simulation. Thus, Parson does not even address the subject of coverage.

The "bus signal" section cited by examiner, for its use of the word "tags," is about an object for creating connections in a circuit model. There is no suggestion in Parson that its tags have the claimed "identifier of the assignment statement and a history comprised of a propagation of a tag value."

According to an electronic search for the word "tag," in the text of Parson as it is posted on www.USPTO.gov, there are only three instances of the word "tag" in Parson: Col. 1, line 37; Col. 11, line 2 and Col. 13, line 20.

The Examiner has only referred to Col. 11, line 2, which uses the word "tag" to refer to a type of flag. An examination of the other two uses of the word "tag" indicate that Parson intended to use such flags to refer to providing specification, in netlist languages, for tool behavior or for additional properties of nets and connections.

To use Parson in the manner suggested by the Examiner "would change the principle of operation" of Parson, and this is prohibited by MPEP 2143.01 (see "THE

PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE").

5.4 Combination

In an argument of obviousness there must be present a teaching to combine the references, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. For example, MPEP 2143.01 ("Suggestion or Motivation To Modify the References") states:

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

The Examiner, however, has based his combination on the assertion that "it would have been obvious to one of ordinary skills in the art, at the time of the invention to combine" the references (i.e., McNamara, Grinwald and Parson).

Applicants have shown, however, that there is no "teaching, suggestion, or motivation" in these references to apply their teachings to observability-based coverage.

6. Summary

Applicants respectfully submit that all objections and rejections have been traversed and request a Notice of Allowance.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 502584 referencing docket number 06816.0172.

Respectfully submitted,

A handwritten signature in black ink, reading "Jonathan T. Kaplan". The signature is written in a cursive style with a large, stylized "J" and "K".

Jonathan T. Kaplan
Registration No. 38,935

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**JONATHAN T. KAPLAN
ATTORNEY AT LAW
140 NASSAU STREET
NEW YORK, NY 10038-1501
TEL. 917-674-5017**